

# Missouri Department of Natural Resources



## PUBLIC NOTICE

### DRAFT MISSOURI STATE OPERATING PERMIT

DATE: 10/8/04

In accordance with the state Clean Water Law, Chapter 644, RSMo, Clean Water Commission regulation 10 CSR 20-6.010, and the federal Clean Water Act, the applicants listed herein have applied for authorization to either discharge to waters of the state or to operate a no-discharge wastewater treatment facility. The proposed permits for these operations are consistent with applicable water quality standards, effluent standards and/or treatment requirements or suitable timetables to meet these requirements (see 10 CSR 20-7.015 and 7.031). All permits will be issued for a period of five years, unless noted otherwise in the Public Notice for that discharge.

On the basis of preliminary staff review and the application of applicable standards and regulations, the Missouri Department of Natural Resources (MDNR), as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions. The proposed determinations are tentative pending public comment.

Persons wishing to comment on the proposed permit conditions are invited to submit them in writing to the Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, Missouri 65102, ATTN: Peter Goode, P.E., Chief, NPDES Permits and Engineering Section. Please include the permit number in all comment letters.

Comments should be confined to the issues relating to the proposed action and permit(s) and the effect on water quality. The MDNR may not consider as relevant comments or objections to a permit based on issues outside the authority of the Clean Water Commission, (see Curdt v. Mo. Clean Water Commission, 586 S.W.2d 58 Mo. App. 1979).

All comments must be postmarked by November 8, 2004 or received in our office by 5:00 p.m. on November 11, 2004. The requirement of a signed document makes it impossible to accept email comments for consideration at this time. Comments will be considered in the formulation of all final determinations regarding the applications. If response to this notice indicates significant public interest, a public meeting or hearing may be held after due notice for the purpose of receiving public comment on the proposed permit or determination. Public hearings and/or issuance of the permit will be conducted or processed according to 10 CSR 20-6.020.

Copies of all draft permits and other information including copies of applicable regulations are available for inspection and copying at DNR's website, <http://www.dnr.mo.gov/wpscd/wpcp/homewpcp.htm>, or at the Department of Natural Resources, Water Protection Program, 205 Jefferson Street, P.O. Box 176, Jefferson City, Missouri 65102, between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday.

Public Notice Date: 10/8/04  
Permit Number: MO-0102172  
Kansas City Regional Office

<b>FACILITY NAME AND ADDRESS</b>	<b>NAME AND ADDRESS OF OWNER</b>
Liberty Purge Wells 3 miles south of Liberty, MO 64068	City of Liberty 101 East Kansas Street Liberty, MO 64068
<b>RECEIVING STREAM &amp; LEGAL DESCRIPTION</b>	<b>TYPE OF DISCHARGE</b>
Town Branch (Shoal Creek) Sec. 28, T51N, R31W, Clay County	Municipal, reissuance

STATE OF MISSOURI  
**DEPARTMENT OF NATURAL RESOURCES**

MISSOURI CLEAN WATER COMMISSION

**MISSOURI TYPE II OPERATING PERMIT**

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 86th Congress) as amended,

Permit No.: MO-0102172

Owner: City of Liberty  
Address: 101 East Kansas Street, Liberty, MO 64068

Continuing Authority: Same as above  
Address: Same as above

Facility Name: Liberty Purge Wells  
Address: 3 miles south of Liberty, MO 64068

Legal Description: S  $\frac{1}{2}$ , SE  $\frac{1}{4}$ , NW  $\frac{1}{4}$ , Sec. 28, T51N, R31W, Clay County

Receiving Stream: Town Branch (U)  
First Classified Stream and ID: Shoal Creek (P) (00396)  
USGS Basin & Sub-watershed No.: (10300101-049001)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

**FACILITY DESCRIPTION**

Outfall #001 - Combined Wells - SIC #9999

Combined Design Flow is 2.256 MGD.

Purge Well

Design flow is 1.5 MGD.

Actual flow is 1.5 MGD.

Drinking Water Production Well

Design flow is 0.756 MGD.

Actual flow is 0.756 MGD.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

\_\_\_\_\_  
Effective Date

\_\_\_\_\_  
Stephen M. Mahfood, Director, Department of Natural Resources  
Executive Secretary, Clean Water Commission

\_\_\_\_\_  
Expiration Date  
MO 780-0041 (10-93)

\_\_\_\_\_  
Jim Hull, Director of Staff, Clean Water Commission

				PAGE NUMBER 2 of 4		
<b>A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS</b>				PERMIT NUMBER MO-0102172		
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001 - Purge Well and Drinking Water Production Well (Note 1)						
Flow	M <sup>3</sup> /D	*		*	daily	24 hr. total
pH - Units	Units	*		***	once/month**	grab
Trichloroethylene (TCE)	mg/L	0.020		0.020	once/month**	grab
1,1 Dichloroethylene (1,1-DCE)	mg/L	0.028		0.028	once/month**	grab
Vinyl Chloride (VC)	mg/L	0.008		0.008	once/month **	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE _____.						
Downstream Monitoring in Town Branch before mixing with the discharge for Liberty's East Lagoon, NE ¼, SE ¼, Sec. 29, T51N, R31W, Clay County						
Trichloroethylene (TCE)	mg/L	*		*	once/quarter****	grab
Vinyl Chloride (VC)	mg/L	*		*	once/quarter****	grab
Aquifer Monitoring in the monitoring wells, in NW ¼, Sec. 28, T51N, R31W, Clay County						
Trichloroethylene (TCE)	mg/L	*		*	once/quarter****	grab
Vinyl Chloride (VC)	mg/L	*		*	once/quarter****	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE _____. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
<b>B. STANDARD CONDITIONS</b>						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I, II</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

MO 780-0010 (8/91)

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)**

- \* Monitoring requirement only.
- \*\* If a monthly sample exceeds the effluent limits, the City will:
  1. Notify the Regional Office of Missouri Department of Natural Resources of concentration.
  2. Implement corrective actions.
  3. Sample discharge in the following week to show that the corrective action is effective. Continue weekly sampling until compliance with effluent limit is achieved.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

\*\*\* pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.

\*\*\*\* Once a quarter in the months of January, April, July and October.

Note 1 - Sampling requirements at the Drinking Water Protection Well may cease once the Water Protection Program has been notified that the well has been returned to service. This well will be reported as no-discharge during the remaining reporting periods following notification.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified or alternatively revoked and reissued, to:
  - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b) (1) (C) and (D), 304(b) (2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
    - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
    - (2) controls any pollutant not limited in the permit.
  - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
  - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.
3. This permit may be reopened and modified or alternatively revoked and reissued to incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analyses, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the states water quality standards.
4. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
  - (1) One hundred micrograms per liter (100 ug/L);
  - (2) Two hundred micrograms per liter (200 ug/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
  - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
  - (4) The level established in Part A of the permit by the Director.
- (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

C. SPECIAL CONDITIONS (continued)

5. Report as no-discharge when a discharge does not occur during the report period.
6. General Criteria. The following water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
- (a) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
  - (b) Waters shall be free from oil, grease and debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
  - (c) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, off-flavor, odor or prevent full maintenance of beneficial uses;
  - (d) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
  - (e) There shall be no significant human health hazard from incidental contact with the water;
  - (f) There shall be no acute toxicity to livestock or wildlife watering;
  - (g) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
  - (h) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

D. SCHEDULE OF COMPLIANCE

A one-time analysis of Outfall #001 for the following analyses will be required to be submitted by December 30, 2004.

Contaminant	Abbreviation
Trichloroethylene or (ethene)	TCE
Tetrachloroethylene or (ethene)	PCE
1,1 Dichloroethylene or (ethene)	1,1-DCE
Cis 1,2 Dichloroethylene	cis-1,2-DCE
Trans-1,2 Dichloroethylene	trans-1,2-DCE
1,1,1 Trichloroethane	1,1,1-TCA or TCA
1,1,2 Trichloroethane	1,1,2 TCA
Vinyl Chloride	VC

Copies of the results of this one time only analysis must be submitted to the Kansas City Regional Office and the Water Protection Program, Water Pollution Branch, NPDES Permits and Engineering Section, P.O. Box 176, Jefferson City, Missouri 65102.

Date of Fact Sheet: July 29, 2004

Date of Public Notice: October 8, 2004

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT  
FACT SHEET

This Fact Sheet explains the applicable regulations, rationale for development of this permit and the public participation process.

NPDES PERMIT NUMBER: MO-0102172

FACILITY NAME: Liberty Purge Wells

OWNER NAME: City of Liberty

LOCATION: Sec. 28                      T51N                      R31W                      County: Clay

RECEIVING STREAM: Town Branch

FACILITY CONTACT PERSON: Gary Turley

TELEPHONE: (816) 792-6075

FACILITY DESCRIPTION AND RATIONALE

The Federal Water Pollution Control Act established the National Pollutant Discharge Elimination System (NPDES) program in order to regulate discharges of pollutants from point sources into waters of the United States. All such discharges are unlawful without a permit, and discharges not in compliance with all permit terms and conditions are unlawful. The NPDES program in Missouri is administered by the Missouri Department of Natural Resources.

The City of Liberty, Missouri has applied for renewal of an NPDES permit to discharge water from their purge wells. The wells are being pumped to remove trichloroethylene from an aquifer used by the City of Liberty for their drinking water supply.

The purge wells are located at and adjacent to the Old Liberty Water Plant in Sec. 28, T51N, R31W.

Located along Missouri Highway 210, approximately 0.7 miles east of Missouri Highway 291 in the City of Liberty, Clay County, Missouri. The immediate site is a fenced lot consisting of approximately 2.5 acres. From 1965 to 1975, the site was leased by Lee Chemical Company from the City of Liberty, which owns the property. Lee Chemical was in the business of packaging and distributing commercial and industrial solvents and other chemicals. In addition, Lee Chemical arranged for disposal of chemicals from various commercial companies; disposal was accomplished by on-site stockpiling of 55-gallon drums. In 1975, the City of Liberty filed suit against Lee Chemical for non-payment of rent. Upon settlement of the suit the City of Liberty was granted access to the property.

In 1976, the City of Liberty was notified by EPA that the chemicals on the property would have to be properly disposed of. The City of Liberty was authorized to dispose of the materials at the Browning-Ferris Industries Missouri City Landfill. In 1977 approximately three hundred 55-gallon drums of wastes were removed from the abandoned site and properly disposed. Many of these drums contained trichloroethylene (TCE). In 1979, low levels of TCE were detected in the raw water from the City of Liberty's public water supply wells. In the years following 1979, water and soil samples collected by EPA and MDNR continued to show signs of both soil and groundwater contamination. MDNR inspected the site in September 1982, and found deteriorated drums and chemical containers plus an empty 55-gallon drum labeled 1,1,1-trichloroethane. Subsequently the

City of Liberty and MDNR identified the abandoned site as a source of TCE contamination in the city's water supply wells, and a plan to utilize existing wells to purge contaminated groundwater from the aquifer under a National Pollutant Discharge Elimination System (NPDES) permit was implemented. An old water plant building located on the property was subsequently demolished in 1983. A concrete tank that originally was used as storage while the treatment facility was in operation, and the building foundation remain. On January 1, 1984, MDNR placed the site on the Registry of Confirmed Abandoned or Uncontrolled Hazardous Waste Disposal Sites in Missouri. By 1986 TCE contamination was detected in all of the city's water supply wells. However, a gradual decrease in contamination levels in the wells was provided by increasing the discharge rates until only the two purge wells showed signs of contamination. Since 1986, drinking water standards have been maintained by the City of Liberty at or below regulated levels. The EPA placed the site on the National Priorities List (NPL) on May 20, 1986.

The principal threat at the site is the contamination of groundwater with Volatile Organic Compounds (VOCs). Before the interim remedial action was taken, samples from all of the existing Water Supply Wells (WSW Numbers 1 through 6) showed 1,1,2-trichloroethylene (TCE) contamination. Samples from WSW #2 contained concentrations as high as 330 parts per billion (ppb), and sampling of an abandoned city supply well on the Lee Chemical Site showed concentrations of TCE as high as 851 ppb.

TCE contamination is present in the soil at depths up to 20 feet below ground level, contamination being greatest around the foundation with levels decreasing away from the site foundation. A plume of TCE contamination is suspended in and moving with groundwater in the aquifer underlying the site.

This permit will be issued for a period of five years.



**WATER QUALITY REVIEW SHEET**  
Determination of Effluent Limits

**FACILITY INFORMATION**

Facility Name: Liberty Purge Wells

NPDES #: MO-0102172

Facility Type/Description: TCE Remediation/Cleanup

8-Digit Huc: 10300101

County: Clay

Legal Description: SE ¼, NW ¼, Sec. 28, T51N, R31W

Latitude/Longitude: \_\_\_\_\_

Water Quality History And Special Problems: TCE spill affected drinking water wells.  
This permit is for discharge from purge wells.

**OUTFALL CHARACTERISTICS**

Outfall	Design Flow (Cfs)	Treatment Type	Receiving Waterbody	Main Contaminant Of Concern
001	1.5 MGD	None	Town Branch (U)	Trichloroethylene

**RECEIVING WATERBODY INFORMATION**

Waterbody	Class	7q10 (Cfs)	*Designated Uses	Other Characteristics
Town Branch (U)				

\*Cool water fishery (clf), cold water fishery (cdf), irrigation (irr), industrial (ind), boating & canoeing (btg), drinking water supply (dws), whole body contact recreation (wbc), protection of warmwater aquatic life and human health (aql), livestock & wildlife watering (lww)

**PERMIT LIMITS AND INFORMATION**

TMDL Watershed:	Yes	____	No	<u>X</u>	Disinfection Waiver:	Yes	____	No	____	NA	<u>X</u>
W.L.A. Study Conducted:	Yes	____	No	<u>X</u>	303d Waterbody:	Yes	____	No	<u>X</u>	NA	____
Disinfection Required:	Yes	____	No	<u>X</u>	Violations:	Yes	____	No	<u>X</u>		

Outfall #001

Wet Test: Yes ☐ No ☒ Frequency: \_\_\_\_\_ A.E.C. \_\_\_\_\_ Limit: \_\_\_\_\_

PARAMETER	Daily Maximum	Weekly Average	Monthly Average
Trichloroethylene (TCE)	0.020 mg/L		0.020 mg/L
1,1 Dichloroethylene (1,1, DCE)	0.028 mg/L		* mg/L
Vinyl Chloride (VC)	0.008 mg/L		* mg/L

\* Monitor only

## RECEIVING WATER MONITORING REQUIREMENTS - NONE

### Site (Downstream Monitoring)

Parameter(S)	Sampling Frequency	Sample Type	Location
Trichloroethylene	Quarterly	Grab	In Town Branch before mix
Vinyl Chloride	Quarterly	Grab	With discharge from Liberty East Lagoon

### Site (Aquifer Monitoring)

Parameter(S)	Sampling Frequency	Sample Type	Location
Trichloroethylene	Quarterly	grab	
Vinyl Chloride	Quarterly	Grab	

## Derivation and Discussion of Limits

THE LIMIT FOR TCE IN THE WATER QUALITY STANDARDS IS 0.005 MG/L. ASSUMING THAT VOLATIZATION AND DILUTION BOTH REDUCE THE CONCENTRATION BY ONE-HALF, A LIMIT OF 0.020 MG/L IS CALCULATED.

VINYL CHLORIDE AND 1,1, DICHLOROETHYLENE ARE BEING ADDED BECAUSE THEY ARE BREAKDOWN PRODUCTS OF TCE. THE SAME RATIONALE WAS USED FOR THEM AS FOR TCE IN CALCULATING LIMITS.

Reviewer: Tim L. Stallman

Date: July 29, 2004

Unit Chief: Richard J. Laux

Monitoring and effluent limits contained within this document have been developed in accordance with EPA guidelines using the best available data and are believed to be consistent with Missouri's Water Quality Standards and Effluent Regulations. If additional water quality data or anecdotal information are available that may affect the recommended monitoring and effluent limits, please forward these data and information to the author.